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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,571	12/22/2003	Jin-sheng Wang	TI-36946	7976
23494	7590	07/01/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			LAM, TUAN THIEU	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/743,571

Applicant(s)

WANG ET AL.

Examiner

Tuan T. Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,6-8,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,6-8,10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This is a response to the amendment filed 6/2/2005. Claims 2, 6-8 and 10-11 are pending and are under examination.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 6-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim (USP 5,319,265), prior art of record, in view of Hardy et al. (USP 6,114,982) or Lofstrom (USP 5,416,484), newly cited prior art.

Figure 4 of Lim shows a signal level detection comprising a first DC error amplifier operational (Q1-Q5) to generate a control signal (signal at the collector of the transistor Q4) in response to a reference signal (Vin) and a feedback signal (signal at the collector of the transistor Q5), and a first inverter (Q7-Q9, IB) operational to generate the feedback signal in response to the first DC error amplifier control signal, wherein the first DC error amplifier control signal operate to set a switching point for the first inverter (the hysteresis of the comparator is determined by the switching point of the inverter (Q7-Q9)).

Lim shows a single DC amplifier receiving a single input signal for providing a single output instead of combining two identical DC amplifiers receiving a differential input signal for providing a differential output signal as called for in claims 2, 6-8 and 10-11. Hardy et al. and Lofstrom shows that a differential output comparator can be formed by combining two identical

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amplifiers receiving a differential input signal. Thus, one skilled in the art would have been recognized to modify Lim's circuit arrangement to provide two identical amplifiers receiving differential input signals and to provide a differential output signal as suggested in Hardy et al. and Lofstrom. Therefore, outside of non-obvious results, the obviousness of combining two identical DC amplifiers receiving a differential input signal for providing a differential output signal will not be patentable under 35USC 103(a).

3. Claims 2, 6-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim et al. (5,614,857), prior art of record, in view of Hardy et al. (USP 6,114,982) or Lofstrom (USP 5,416,484), newly cited prior art.

Figure 1 of Lim et al. shows a signal level detection comprising a first DC error amplifier operational (OP1) to generate a control signal (Vout) in response to a reference signal (Vin) and a feedback signal (Vth), and a first inverter (Q1, R4) operational to generate the feedback signal in response to the first DC error amplifier control signal, wherein the first DC error amplifier control signal operate to set a switching point for the first inverter.

Lim shows a single DC amplifier receiving a single input signal for providing a single output instead of combining two identical DC amplifiers receiving a differential input signal for providing a differential output signal as called for in claims 2, 6-8 and 10-11. Hardy et al. and Lofstrom shows that a differential output comparator can be formed by combining two identical amplifiers receiving a differential input signal. Thus, one skilled in the art would have been recognized to modify Lim's circuit arrangement to provide two identical amplifiers receiving differential input signals and to provide a differential output signal as suggested in Hardy et al. and Lofstrom. Therefore, outside of non-obvious results, the obviousness of combining two

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identical DC amplifiers receiving a differential input signal for providing a differential output signal will not be patentable under 35 USC 103(a).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P. CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tuan T. Lam  
Primary Examiner  
Art Unit 2816

6/24/2005